

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
5 August 2004 (05.08.2004)

PCT

(10) International Publication Number  
**WO 2004/065459 A1**

(51) International Patent Classification<sup>7</sup>: C08G 83/00,  
C02F 1/00

(21) International Application Number:  
PCT/GR2004/000004

(22) International Filing Date: 21 January 2004 (21.01.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
20030100020 21 January 2003 (21.01.2003) GR

(71) Applicant (for all designated States except US): NA-  
TIONAL CENTER FOR SCIENTIFIC RESEARCH  
"DEMOKRITOS" [GR/GR]; GR-153 10 Agia Paraskevi  
Attikis (GR).

(71) Applicants and

(72) Inventors: PALEOS, Constantinos [GR/GR]; 123  
Mantzagriotaki, GR-176 76 Kallithea (GR). TSIOUR-  
VAS, Dimitrios [GR/GR]; 13 Diopoleos, GR-111 42  
Athens (GR). SIDERATOU, Oreozili [GR/GR]; 87-89  
Chrysostomou Smyrnis, GR-151 21 Pefki (GR).

(72) Inventor; and

(75) Inventor/Applicant (for US only): ARKAS, Michael  
[GR/GR]; 5 Konitsis, GR-152 37 Filothei (GR).

(74) Agent: MALAMIS, Alkisti-Irene; 52 Skoufa, GR-106 72  
Athens (GR).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), Euro-  
pean (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR,  
GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK,  
TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,  
ML, MR, NE, SN, TD, TG).

**Declaration under Rule 4.17:**

— as to applicant's entitlement to apply for and be granted a  
patent (Rule 4.17(ii)) for all designations

**Published:**

— with international search report  
— before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: MODIFIED LIPOPHILIC POLYMERS FOR THE PURIFICATION OF WATER

(57) Abstract: The invention deals with lipophilic modified dendrimers and hyperbranched polymers that can encapsulate organic pollutants of a diversity of sizes and shapes and which are prepared following the modification of the functional groups present at the surface of the polymer. These functional polymers are characterized by the fact that their nanocavities do not have predetermined dimensions but their size and shape are affected by the size and shape of the pollutant they will encapsulate or otherwise they will be so-adjusted to it.

WO 2004/065459 A1